

Patent Appl. No. 10/647,919
Docket No. 15634 (PC25246)
Filing Date: August 26, 2003

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AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously presented) An immunogenic composition comprising:
 - a modified live Bovine Herpes Virus (BHV-1);
 - a modified live parainfluenza virus Type 3 (PI3);
 - a modified Bovine Respiratory Syncytial Virus (BRSV);
 - an adjuvant;
 - a Bovine Viral Diarrhea Virus Type-1 (BVDV-1);
 - a Bovine Viral Diarrhea Virus Type-2 (BVDV-2); and
 - a veterinary-acceptable carrier.
2. (Previously presented) The immunogenic composition of Claim 1, wherein said BVDV-1 and BVDV-2 are inactivated.
3. (Original) The immunogenic composition of Claim 1, wherein said adjuvant comprises a saponin.
4. (Previously presented) The immunogenic composition of Claim 1, wherein said adjuvant comprises a saponin-containing oil-in-water emulsion.
5. (Previously presented) The immunogenic composition of Claim 4, wherein said adjuvant comprises Quil A, lecithin and oil blend, and cholesterol.
6. (Canceled)
7. (Previously presented) The immunogenic composition of Claim 1, further comprising at least one antigen selected from the group consisting of *Leptospira canicola*, *Leptospira grippotyphosa*, *Leptospira borgpetersenii hardjo-prajitno*, *Leptospira icterohaemorrhagiae*, *Leptospira interrogans pomona*, *Leptospira borgpetersenii hardjo-bovis*, and *Campylobacter fetus*.
8. (Previously presented) The immunogenic composition of Claim 1, wherein said Bovine Viral Diarrhea Virus Type 1 (BVDV-1) is cytopathic.
9. (Previously presented) The immunogenic composition of Claim 1, wherein said Bovine Viral Diarrhea Virus Type 1 (BVDV-1) is noncytopathic.
10. (Previously presented) The immunogenic composition of Claim 1, wherein said Bovine Viral Diarrhea Virus Type 2 (BVDV-2) is cytopathic.

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11. (Previously presented) The immunogenic composition of Claim 1, wherein said Bovine Viral Diarrhea Virus Type 2 (BVDV-2) is noncytopathic.
12. (Withdrawn) A method of inducing an immune response against Bovine Herpes Virus Type 1 in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
13. (Withdrawn) A method of inducing an immune response against Bovine Viral Diarrhea Virus Type-1 in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
14. (Withdrawn) A method of inducing an immune response against Bovine Viral Diarrhea Virus Type-2 in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
15. (Withdrawn) A method of inducing an immune response against parainfluenza virus Type 3 (PI3) in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
16. (Withdrawn) A method of inducing an immune response against Bovine Respiratory Syncytial Virus (BRSV) in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
17. (Withdrawn) A method of inducing an immune response against *Campylobacter fetus* in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
18. (Withdrawn) A method of inducing an immune response against an antigen selected from the group consisting of *Leptospira canicola*, *Leptospira grippotyphosa*, *Leptospira borgpetersenii hardjo-prajitno*, *Leptospira icterohaemorrhagiae*, *Leptospira interrogans pomona*, *Leptospira borgpetersenii hardjo-bovis*, *Leptospira bratislava*, *Neospora caninum*, *Trichomonus fetus*, *Mycoplasma bovis*, *Haemophilis somnus*, *Mannheimia haemolytica* and *Pasturella multocida* in an animal subject, comprising administering an immunologically effective amount of the composition of Claim 1 and a veterinary-acceptable carrier.
19. (Withdrawn) The method of any one of claims 12-18, wherein said immune response is a cellular or humoral immune response.
20. (Previously presented) A vaccine composition comprising:

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- a modified live Bovine Herpes Virus (BHV-1);
 - a modified live parainfluenza virus Type 3 (PI3);
 - a modified live Bovine Respiratory Syncytial Virus (BRSV);
 - an adjuvant;
 - a Bovine Viral Diarrhea Virus Type-1 (BVDV-1);
 - a Bovine Viral Diarrhea Virus Type-2 (BVDV-2); and
 - a veterinary-acceptable carrier.
21. (Previously presented) The vaccine composition of Claim 20, wherein said BVDV-1 and BVDV-2 are inactivated.
22. (Original) The vaccine composition of Claim 20, wherein said adjuvant comprises a saponin.
23. (Previously presented) The vaccine composition of Claim 20, wherein said adjuvant comprises a saponin-containing oil-in-water emulsion.
24. (Canceled)
25. (Previously presented) The vaccine composition of Claim 20, wherein said adjuvant comprises Quil A, lecithin and oil blend, and cholesterol.
26. (Canceled)
27. (Previously presented) The vaccine composition of Claim 20, further comprising at least one antigen selected from the group consisting of *Leptospira canicola*, *Leptospira grippotyphosa*, *Leptospira borgpetersenii hardjo-prajitno*, *Leptospira icterohaemorrhagiae*, *Leptospira interrogans pomona*, *Leptospira borgpetersenii hardjo-bovis* and *Campylobacter fetus*.
28. (Previously presented) The vaccine composition of Claim 20, wherein said Bovine Viral Diarrhea Virus Type-1 (BVDV-1) is cytopathic.
29. (Previously presented) The vaccine composition of Claim 20, wherein said Bovine Viral Diarrhea Virus Type-1 (BVDV-1) is noncytopathic.
30. (Previously presented) The vaccine composition of Claim 20, wherein said Bovine Viral Diarrhea Virus Type-2 (BVDV-2) is cytopathic.
31. (Previously presented) The vaccine composition of Claim 20, wherein said Bovine Viral Diarrhea Virus Type-2 (BVDV-2) is noncytopathic.

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32. (Withdrawn) A method of preventing abortion caused by a virus selected from the group consisting of BHV-1 in an animal comprising administering to said animal a therapeutically effective amount of the vaccine composition of Claim 20.
33. (Withdrawn) The method of Claim 32, wherein said animal is a cow, a calf, a heifer, a steer or a bull.
34. (Withdrawn) The method of Claim 33, wherein said animal is a lactating cow.
35. (Withdrawn) The method of Claim 33, wherein said animal is a pregnant cow.
36. (Withdrawn) The method of Claim 33, wherein said animal is a prebreeding cow or heifer.
37. (Withdrawn) The method of Claim 32, wherein said vaccine is administered intramuscularly.
38. (Withdrawn) The method of Claim 32, wherein said vaccine is administered subcutaneously.
39. (Withdrawn) The method of Claim 32, wherein said vaccine contains from about 10^3 to about 10^{10} colony forming units per dose of each virus.
40. (Withdrawn) The method of Claim 32, wherein the amount of said vaccine administered is from about 0.5 to about 5.0ml per dose.
41. (Withdrawn) The method of Claim 32, wherein the amount of said vaccine administered is about 5ml per dose.
42. (Withdrawn) The method of Claim 32, wherein the amount of said vaccine administered is about 2ml per dose.
43. (Withdrawn) A method of treating or preventing a disease or disorder in an animal caused by infection with a virus selected from the group consisting of BVDV Type 1 or Type 2, BHV-1, PI3 or BRSV comprising administering to said animal a therapeutically effective amount of the vaccine composition of Claim 20.
44. (Withdrawn) The method of Claim 43, wherein said animal is a cow, a calf, a heifer, a steer or a bull.
45. (Withdrawn) The method of Claim 44, wherein said animal is a lactating cow.
46. (Withdrawn) The method of Claim 44, wherein said animal is a prebreeding cow or heifer.

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47. (Withdrawn) The method of Claim 44, wherein said animal is a pregnant cow.
48. (Withdrawn) The method of Claim 43, wherein said vaccine is administered intramuscularly.
49. (Withdrawn) The method of Claim 43, wherein said vaccine is administered subcutaneously.
50. (Withdrawn) The method of Claim 43, wherein said vaccine contains from about 10^3 to about 10^{10} colony forming units per dose.
51. (Withdrawn) The method of Claim 43, wherein the amount of said vaccine administered is from about 0.5 to about 5.0ml per dose.
52. (Withdrawn) The method of Claim 51, wherein the amount of said vaccine administered is about 5ml per dose.
53. (Withdrawn) The method of Claim 51, wherein the amount of said vaccine administered is about 2ml per dose.
54. (Withdrawn) A method of treating or preventing a disease or disorder in an animal caused by infection with an antigen selected from the group consisting of *Leptospira canicola*, *Leptospira grippotyphosa*, *Leptospira borgpetersenii hardjo-prajitno*, *Leptospira icterohaemorrhagiae*, *Leptospira interrogans pomona*, *Leptospira borgpetersenii hardjo-bovis*, *Leptospira bratislava*, *Campylobacter fetus*, *Neospora caninum*, *Trichomonus fetus*, *Mycoplasma bovis*, *Haemophilis somnus*, *Mannheimia haemolytica* and *Pasturella multocida*, comprising administering to said animal a therapeutically effective amount of the vaccine composition of Claim 20.
55. (Withdrawn) The method of Claim 54, wherein said animal is a cow, a calf, a heifer, a steer or a bull.
56. (Withdrawn) The method of Claim 55, wherein said animal is a lactating cow.
57. (Withdrawn) The method of Claim 55, wherein said animal is a pregnant cow.
58. (Withdrawn) The method of Claim 55, wherein said animal is a prebreeding cow or heifer.
59. (Withdrawn) The method of Claim 54, wherein said vaccine is administered intramuscularly.

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60. (Withdrawn) The method of Claim 54, wherein said vaccine is administered subcutaneously.
61. (Withdrawn) The method of Claim 54, wherein said vaccine contains from about 10^3 to about 10^{10} colony forming units per dose of each virus.
62. (Withdrawn) The method of Claim 54, wherein the amount of said vaccine administered is from about 0.5 to about 5.0ml per dose.
63. (Withdrawn) The method of Claim 62, wherein the amount of said vaccine administered is about 5ml per dose.
64. (Withdrawn) The method of Claim 62, wherein the amount of said vaccine administered is about 2ml per dose.
65. (Withdrawn) A method of preventing persistent fetal infection in an animal subject, comprising administering to said animal an effective amount of the vaccine composition of Claim 20.
66. (Withdrawn) The method of Claim 65, wherein said animal is a cow, a calf, a heifer, a steer or a bull.
67. (Withdrawn) The method of Claim 66, wherein said animal is a lactating cow.
68. (Withdrawn) The method of Claim 66, wherein said animal is a pregnant cow.
69. (Withdrawn) The method of Claim 66, wherein said animal is a prebreeding cow or heifer.
70. (Withdrawn) The method of Claim 65, wherein said vaccine is administered intramuscularly.
71. (Withdrawn) The method of Claim 65, wherein said vaccine is administered subcutaneously.
72. (Withdrawn) The method of Claim 65, wherein said vaccine contains from about 10^3 to about 10^{10} colony forming units per dose of each virus.
73. (Withdrawn) The method of Claim 65, wherein the amount of said vaccine administered is from about 0.5 to about 5.0ml per dose.
74. (Withdrawn) The method of Claim 73, wherein the amount of said vaccine administered is about 5ml per dose.

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75. (Withdrawn) The method of Claim 73, wherein the amount of said vaccine administered is about 2ml per dose.

76. (Previously presented) A vaccine composition comprising:

a modified live Bovine Herpes Virus (BHV-1);

a modified live parainfluenza virus Type 3 (PI3);

a modified live Bovine Respiratory Syncytial Virus (BRSV);

a cytopathic Bovine Viral Diarrhea Virus Type 2 (BVDV-2);

a Bovine Viral Diarrhea Virus Type 1 (BVDV-1);

an adjuvant;

at least one antigen selected from the group consisting of *Leptospira canicola*,

Leptospira grippotyphosa, *Leptospira borgpetersenii hardjo-prajitno*, *Leptospira icterohaemorrhagiae*, *Leptospira interrogans pomona*, *Leptospira borgpetersenii hardjo-bovis*, *Leptospira bratislava*, and *Campylobacter fetus*; and a veterinary-acceptable carrier.

77. (Previously presented) The vaccine composition of Claim 76, wherein said adjuvant comprises a saponin-containing oil-in-water emulsion.

78. (Canceled)

79. (Previously presented) The vaccine composition of Claim 76, wherein said adjuvant comprises Quil A, lecithin and oil blend, and cholesterol.

80. (Previously presented) The vaccine composition of Claim 76, wherein said cytopathic Bovine Viral Diarrhea Virus Type 2 (BVDV-2) is inactivated.

81. (Previously presented) The vaccine composition of Claim 76, wherein said Bovine Viral Diarrhea Virus Type 1 (BVDV-1) is cytopathic.

82. (Previously presented) The vaccine composition of Claim 76, wherein said Bovine Viral Diarrhea Virus Type 1 (BVDV-1) is inactivated.

83. (Canceled)